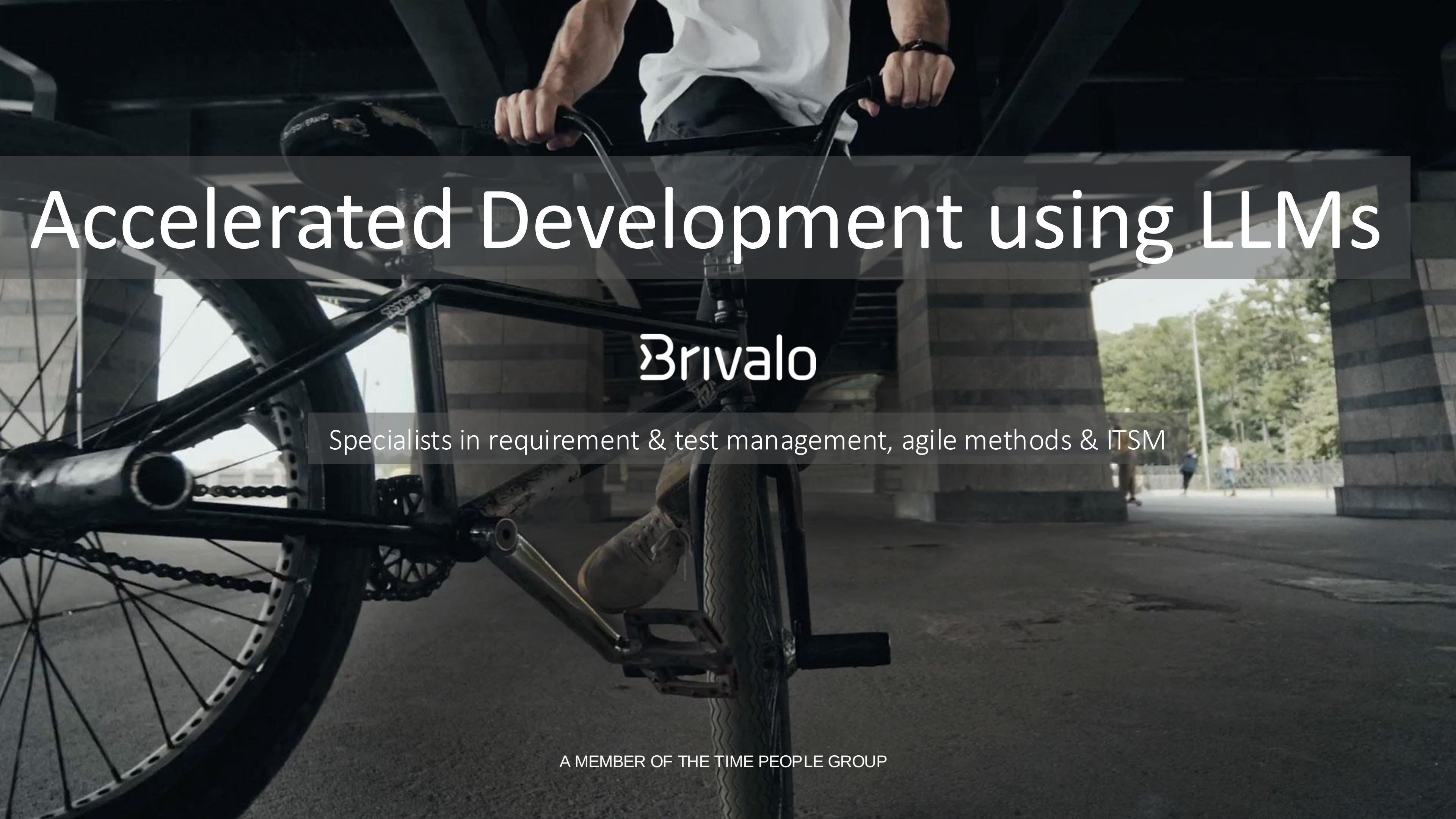


Accelerated Development using LLMs

Brivalo

Specialists in requirement & test management, agile methods & ITSM

A MEMBER OF THE TIME PEOPLE GROUP

Patrik Jonsson

Improving software and business development practices for 35+ years:

- **Software engineering** and agile methods
- Advanced tooling
- **Artificial Intelligence** last 8+ years.
- Co-authored: Software Reuse: Architecture, Process and Organization for Business Success

Teamplayer approach to Accelerated Development using LLMs

Anticipated Effects*

1. Productivity
2. Quality
3. Covering the SDLC
4. Teamwork
5. Fun
6. Start now

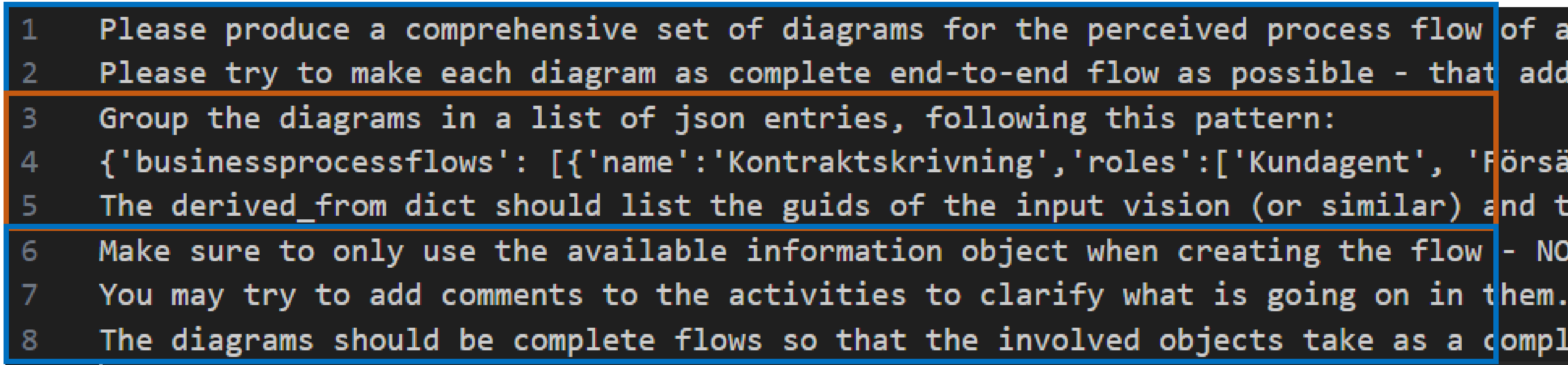
* To be measured together with BTH

How

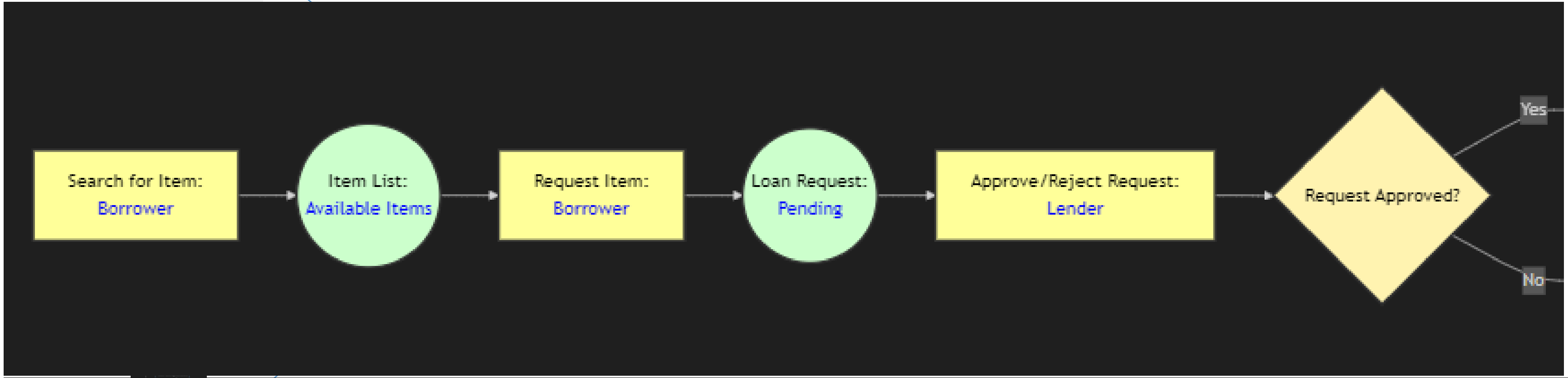
1. Generation of artefact ≈ 1 min
2. Verified prompts using strong LLMs
3. Extensible model: 25+ artefact types
4. Team game board
5. Leapfrog the mundane
6. Connect service to repos

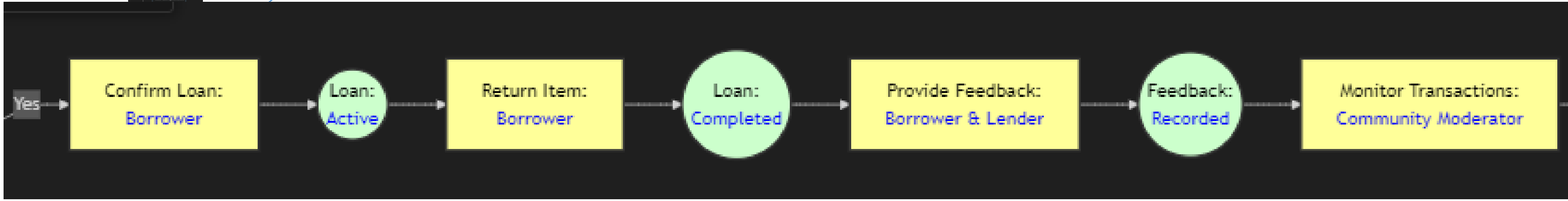
Lendalot (cf. eBay)

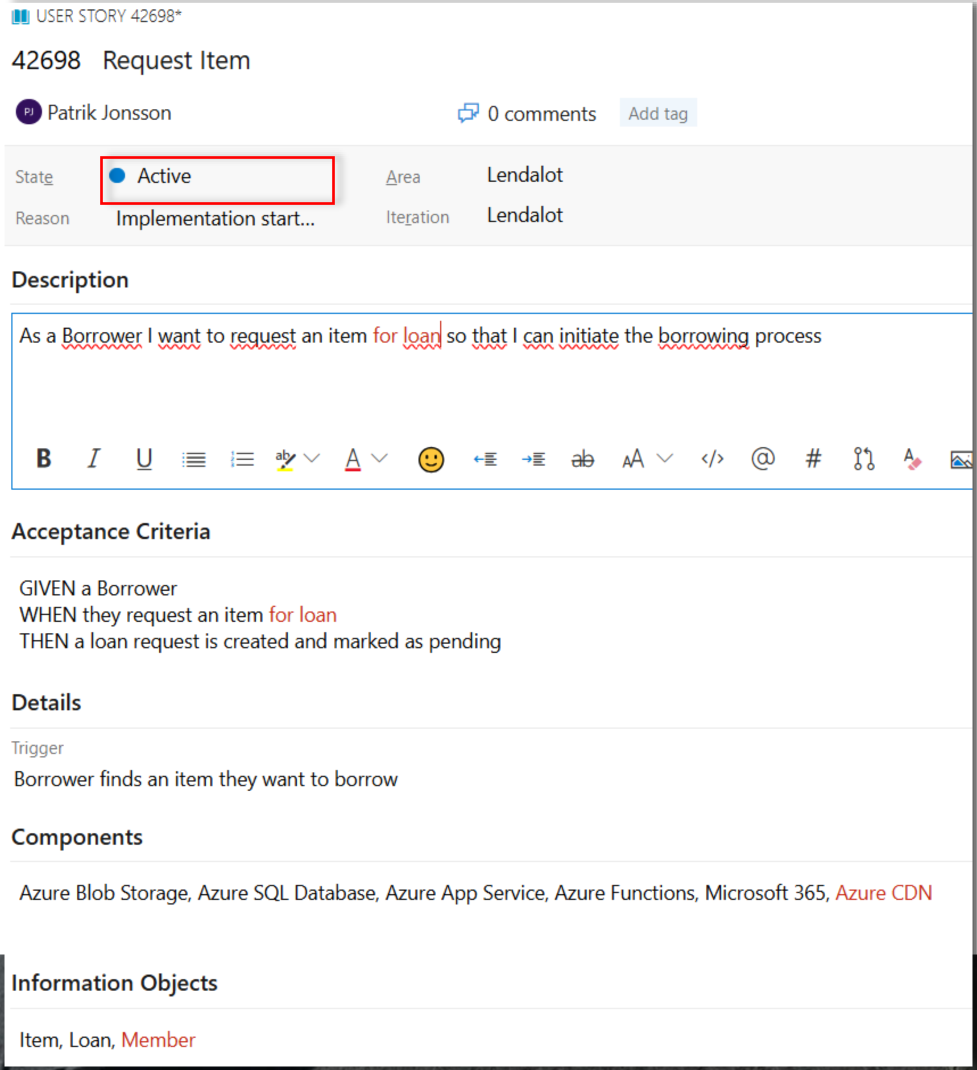
1. In Lendalot, there are members who own one or more items.
2. A member can **borrow an item** from another member.
3. A loan involves exactly one item.
4. A loan has a start date and an end date.
5. Members pay an annual fee.
6. For a member, we need to know the **name, phone number, city, and rating**.
7. We also need to know the date when the member last paid the membership fee.
8. For an item, we need to know the **picture, name, year of manufacture, and weight**.
9. We want to show when an item is available for loan.



```
Please produce a comprehensive set of diagrams for the perceived process flow of a
Please try to make each diagram as complete end-to-end flow as possible - that add
Group the diagrams in a list of json entries, following this pattern:
{'businessprocessflows': [{'name':'Kontraktskrivning','roles':['Kundagent', 'Försä
The derived_from dict should list the guids of the input vision (or similar) and t
Make sure to only use the available information object when creating the flow - NO
You may try to add comments to the activities to clarify what is going on in them.
The diagrams should be complete flows so that the involved objects take as a compl
```







USER STORY 42698*

42698 Request Item

Patrik Jonsson

0 comments Add tag

State: Active

Reason: Implementation start...

Area: Lendalot

Iteration: Lendalot

Description

As a Borrower I want to request an item for loan so that I can initiate the borrowing process

Acceptance Criteria

GIVEN a Borrower
WHEN they request an item for loan
THEN a loan request is created and marked as pending

Details

Trigger

Borrower finds an item they want to borrow

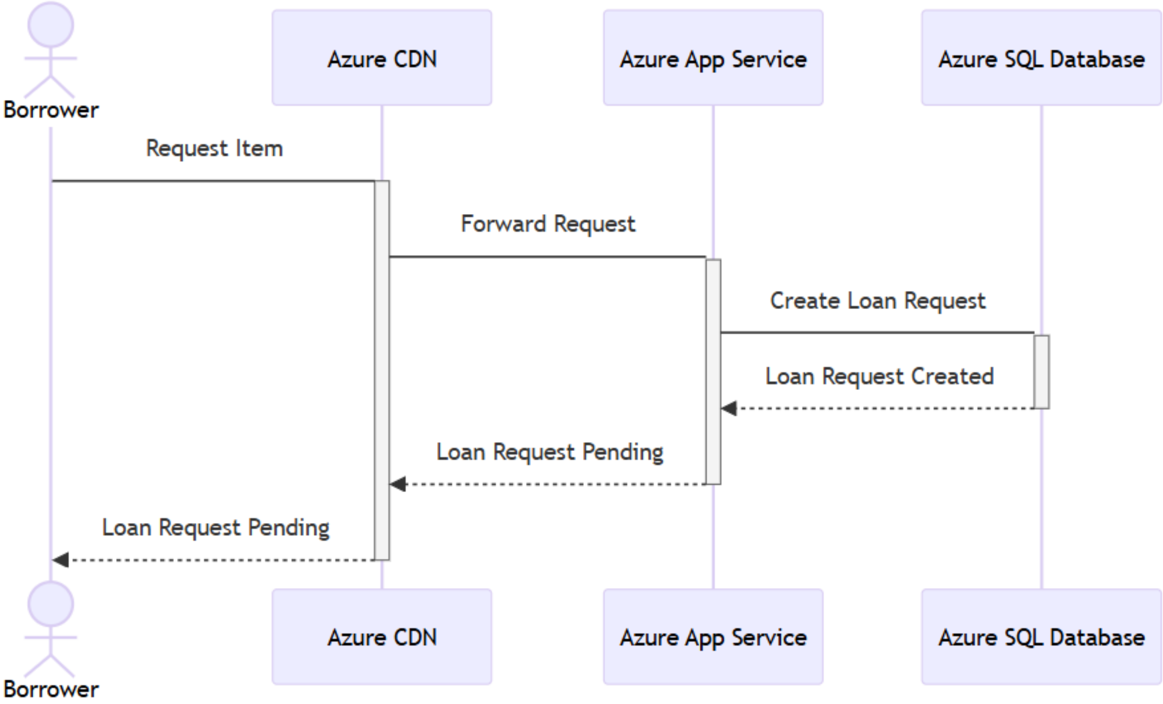
Components

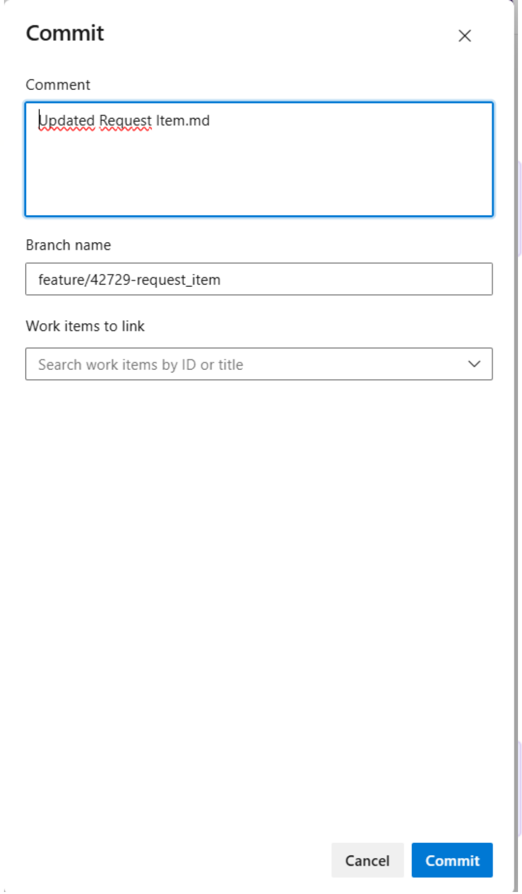
Azure Blob Storage, Azure SQL Database, Azure App Service, Azure Functions, Microsoft 365, Azure CDN

Information Objects

Item, Loan, Member

A sequence diagram for a user story





Commit

Comment: Updated Request Item.md

Branch name: feature/42729-request_item

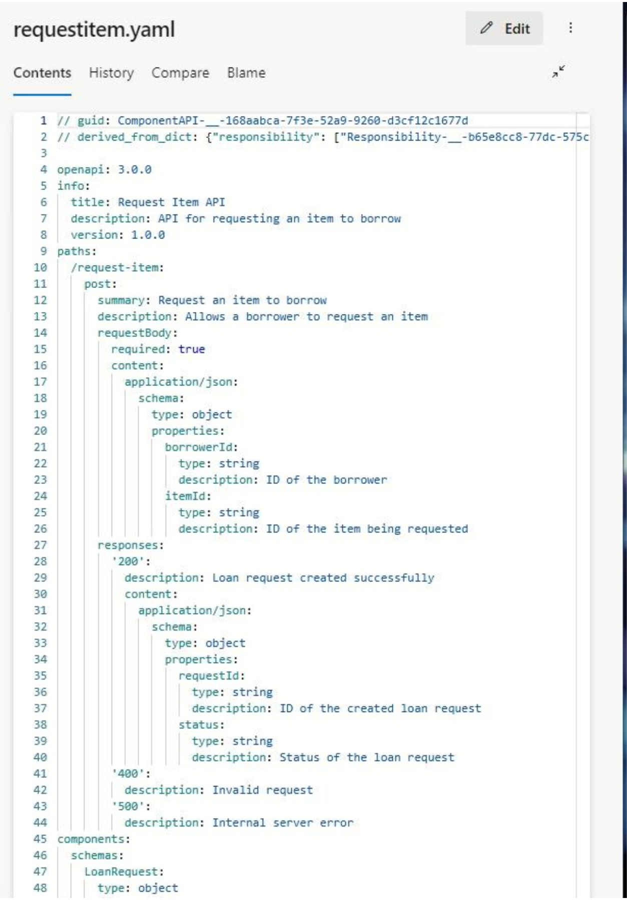
Work items to link: Search work items by ID or title

Leveling up your game using AI – our emerging vision

- No AI
- Using ChatGPT
- Github Copilot (+26%*)
- AI for Software Engineering
- **AI for Team of Teams**

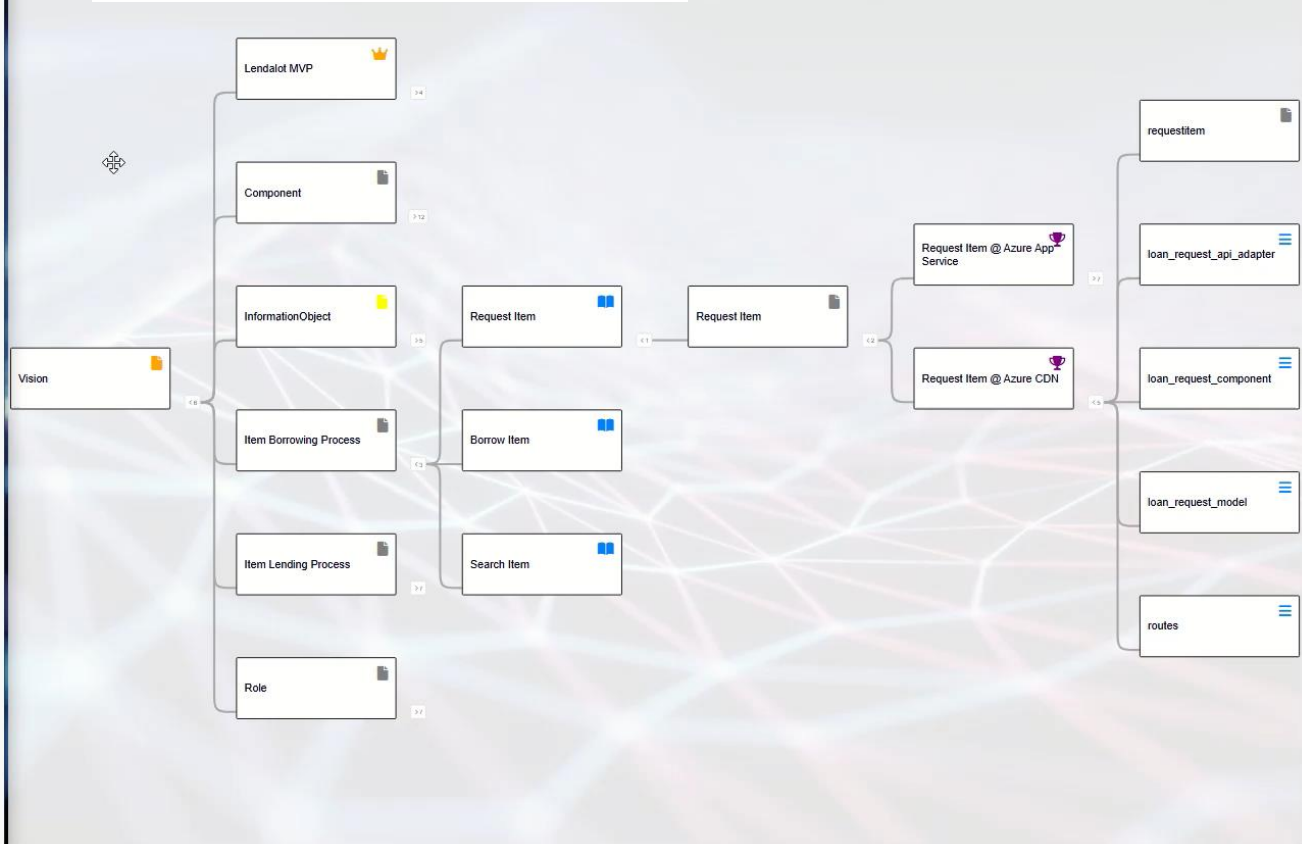
[* papers.ssrn.com/sol3/papers.cfm?abstract_id=4945566](papers.ssrn.com/sol3/papers.cfm?abstract_id=4945566)

Team Game Board



```yaml
// guid: ComponentAPI-__-168aabca-7f3e-52a9-9260-d3cf12c1677d
// derived_from_dict: {"responsibility": ["Responsibility-__-b65e8cc8-77dc-575c

openapi: 3.0.0
info:
  title: Request Item API
  description: API for requesting an item to borrow
  version: 1.0.0
paths:
  /request-item:
    post:
      summary: Request an item to borrow
      description: Allows a borrower to request an item
      requestBody:
        required: true
        content:
          application/json:
            schema:
              type: object
              properties:
                borrowerId:
                  type: string
                  description: ID of the borrower
                itemId:
                  type: string
                  description: ID of the item being requested
      responses:
        '200':
          description: Loan request created successfully
          content:
            application/json:
              schema:
                type: object
                properties:
                  requestId:
                    type: string
                    description: ID of the created loan request
                  status:
                    type: string
                    description: Status of the loan request
        '400':
          description: Invalid request
        '500':
          description: Internal server error
components:
  schemas:
    LoanRequest:
      type: object
```



Strategies for **Legacy Systems**:

- Divide and Conquer
- Rigorous automated testing
- Understanding through visualization
- More capable models

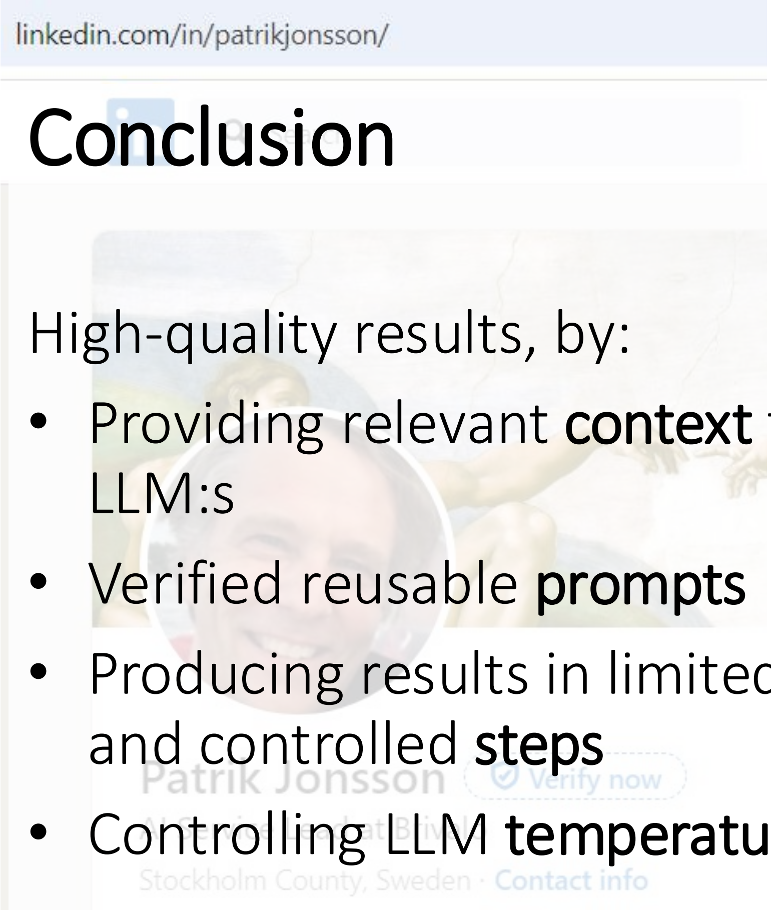
Strategies for **System of Systems**

- Sequence Diagrams
- OpenAPI specifications
- Canonic Information Model – with transforms to system models
- Automated Integration Testing

Conclusion

High-quality results, by:

- Providing relevant **context** to LLM:s
- Verified reusable **prompts**
- Producing results in limited and controlled **steps**
- Controlling LLM **temperature**



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